

Ex. Doc. No. 61.

HOUSE OF REPRESENTATIVES.

INJURY TO THE CAPITOL FROM THE INTRODUCTION
OF GAS.

LETTER

FROM THE

COMMISSIONER OF PUBLIC BUILDINGS,

IN ANSWER

To a resolution of the House of Representatives, of the 13th of March last, in relation to the injury done to the capitol in the introduction of gas, putting up furnaces, &c.

MAY 4, 1848.

Referred to the Committee on Public Buildings and Grounds, and ordered to be printed.

OFFICE OF COMMISSIONER OF PUBLIC BUILDINGS,
April 12, 1848.

SIR: In compliance with a resolution of the House of Representatives, of March 13, 1848, requesting the Commissioner of Public Buildings to report to the House, "what injury, if any, in his opinion, has been done to the capitol by cutting through the walls and arches of the building for the introduction of gas pipes; also, whether, in his opinion, any injury is likely to result from digging about or under the foundation of the building, for the purpose of putting in furnaces to heat or warm the halls and rooms of the capitol; and, also, whether the heavy weight upon the dome from the pole and its braces, which support the large gas lantern, does not endanger the dome itself, if not other parts of the building; and that he be requested, also, to report what will probably be the annual cost of materials to generate gas and for hands or persons to attend the gas works used in lighting the capitol:"

I have the honor to report, that having made the necessary examinations in and about the capitol, in accordance with the above

resolution, I am fully of the opinion that cutting through its walls and arches for any purpose whatever, is very injurious to it. I am also of the opinion, in view of the present broken condition of the upper walls of the capitol, evidently produced by its settling, in consequence of the insufficiency of its foundation walls firmly to sustain the immense weight upon them; that all excavations made near to or under these walls, and the substitution of arches for solid masonry, will increase the tendency of the building to settle, and are therefore decidedly injurious to it.

Doubtless interested persons have been too successful in their efforts to convince those having the control of the capitol, that openings could be made in its foundation walls, and even portions of them removed without injury to it. I am, however, constrained to think differently, believing that all such efforts have originated in self interest, rather than in sound judgment. I am satisfied, from careful examination, that these walls, particularly at the west front of the capitol, were not originally made as strong and substantial as they should have been, and that their strength has consequently been diminished than otherwise by each opening or alteration in them; for, however skilfully the substituted arches may have been built, they must have shrunk and settled more or less after completion, and for this and other obvious reasons, could not have been capable of sustaining the weight upon them as immovably and perfectly as the solid walls did. It is my opinion, therefore, that further mutilation or perforation of these walls to any considerable extent, should not be permitted and could not be done without endangering the whole structure.

My examination of the fastenings and the general effects of the pole and fixtures upon the top of the dome, have satisfied me that the mere weight of them does not endanger that structure, or other parts of the building connected with it. I am, however, of the opinion that, except in calm weather, the pole produces a constant though irregular strain, by its vibratory motion, upon parts of the frame of the dome to which it is stayed and fastened, that must, if continued, eventually weaken it. This effect may be slow, but, in my opinion, sure. In high winds the pole acts as a great lever upon the parts to which it is fastened, and if it be true, that from its weakness, the dome is shaken by high winds, the wrenching and straining of this heavy pole, at such times, must be injurious to it, and even endanger its stability.

When, as has once happened, during a storm, a part of the upper braces gave away, the vibrations of the pole became violent, and there is, in my opinion, great danger that on some such occasion the consequences will be very destructive to the dome itself.

It may with propriety be doubted, whether the light upon the top of the pole possesses such superior advantages over the same quantity more conveniently located for lighting, as to justify the present increased expense and great danger of attending to it in its present position, which is now done by a person ascending the pole to the lantern and there igniting the gas.

The increased exposure to serious injury of the sky-light upon

the top of the dome, from the effects of the pole and lantern, is not unworthy of notice. In addition to its greater disposition to leak, from the loosening of the putty around the glass, probably occasioned by the vibrations of the pole, acting upon the sky-light, the glass has already been much broken by the effects of storms upon the pole, creating considerable bills for repairs.

It is also worthy of consideration, that the liability of the capitol to be seriously injured by lightning is much increased by the pole and fixtures upon it. In addition to the iron braces that sustain it, the first set of which are secured at their lower ends to the stone coping of the brick portion of the dome and pass upward between the two wooden domes until they reach the pole, and are fastened to it by means of an iron band that encircles it, together with a second set reaching from the deck of the dome to the top of the pole and screwed to it, there is also an iron ladder about eight inches wide, extending from the sky-light to the lantern, and fastened to the pole. These conductors of electricity, together with the iron frame of the lantern, the top of which is heavily gilded, must, unitedly, possess conducting powers for that destructive fluid, which, to say the least of them, are truly fearful. Judicious plans, I dare say, have been devised and carried into effect for conducting off from the dome the electric fluid, should the pole at any time be struck with lightning; but it is nevertheless possible that these plans may fail, and that the electric fluid may pass down the iron braces that sustain the pole, between the two wooden domes. Should such an accident happen, the consequences must be terrible, as the two domes most probably would be set on fire and consumed, to the great injury of the capitol, and possibly to the destruction of many valuable lives. At any rate, such a direful catastrophe is not among the impossibilities.

Deeming it to be my duty, I take leave to say a few words in relation to contracts for executing the public work and the loose manner in which they are too often performed. Unless I am much mistaken, this evil is mainly attributable to the peculiar condition of the persons making the contracts, who, owing to the multiplicity of other duties which they are obliged to perform, have little, if any, time left to bestow on matters foreign to their usual occupations. Under such peculiar circumstances, favorable opportunities are afforded to the contractors, which are seldom neglected by them, to plan and execute their work in such a manner as they think best, and too often in a way that is far more profitable to themselves than beneficial to the government.

I regret that circumstances beyond my control have so long delayed my reply to the resolution of the honorable House of Representatives. Immediately after receiving it, I requested Mr. Crutchett to furnish me with such information as he possessed relative to "what will probably be the annual cost of materials to generate gas, and for hands or persons to attend the gas works used in lighting the capitol," and received from him a promise to comply with my request with the least possible delay. As more than three weeks have elapsed since that promise was made, and believ-

ing that much uncertainty rests upon the time when it will be re-deemed, I have deemed it most prudent to wait no longer for the desired information, and therefore submit my report without it.

I have the honor to be, very respectfully, your obedient servant,

CHARLES DOUGLAS,

Commissioner of Public Buildings.

To the HON. SPEAKER

of the House of Representatives.